

REMARKS

Applicants have studied the Office Action dated January 24, 2005 and have made amendments to the claims. It is submitted that the application, as amended, is in condition for allowance. By virtue of this amendment, claims 1, 3-7, 9-13, and 15-18 are pending. Claims 2, 8, and 14 were cancelled without prejudice or disclaimer. Reconsideration and allowance of the pending claims in view of the above amendments and the following remarks is respectfully requested.

In the Office Action, the Examiner:

- (1-2) Rejected claims 17 and 18 under 35 U.S.C. §112, second paragraph as being indefinite because of informalities;
- (3-4) Rejected claims 1-2, 5-6, 7-8, 11-12, 13-14, and 17-18 under 35 U.S.C. §102(b) as being anticipated by Uth (U.S. 6,494,460); and
- (5) Rejected claims 1-18 under 35 U.S.C. §102(b) as being anticipated by Gardner (U.S. 5,039,113).

Rejection Under 35 U.S.C. §112, second paragraph

As noted above, the Examiner rejected claims 17 and 18 under 35 U.S.C. §112, second paragraph, as being indefinite because of informalities. Claims 17 and 18 have been amended as suggested by the Examiner. Accordingly, the Applicants respectfully submit, that the Examiner's rejection of claims 17 and 18 has been overcome and should be withdrawn.

Rejection Under 35 U.S.C. §102(b) by Uth

As noted above, the Examiner rejected claims 1-2, 5-6, 7-8, 11-12, 13-14, and 17-18 under 35 U.S.C. §102(b) as being anticipated by Uth (US 6,494,460). Independent claims 1, 7, and 13 have been amended to distinguish over Uth.

Claims 2, 8, and 14 were cancelled without prejudice or disclaimer. Accordingly, the Examiner's rejection of claims 2, 8, and 14 are now rendered moot.

Referring to Uth, it is not clear from the description in Uth whether or not the rotary seal carrier 40 is common to the stages or if there are two separate components. Careful examination of figures 1 and 5 of Uth illustrate a single non-separable component (the apparent split between them in FIG. 1 is part of the lead line of the reference numeral 50 and there is no split at all in FIG. 5). Of course, if we interpret Uth to describe the rotary seal carrier 40 to be common to the stages and that this rotary seal carrier is not separable, then independent claims 1, 7, and 13 clearly distinguish over Uth because Uth is silent on:

"each rotating sub-assembly of the two sealing stages is totally separable from one another and each stationary sub-assembly of the two sealing stages is totally separable from one another"

Support for this amendment is found at paragraphs [0019] through [0033] of the present invention and FIG. 2 two support sleeves 40'.

Independent claims 1, 7, and 13 of the present invention distinguish over Uth for at least this reason.

Continuing further, even arguendo if we were to interpret the teaching of Uth to include that the rotary seal carrier 40 is separable, independent claims 1, 7, and 13 clearly distinguish over Uth, because Uth is silent on an annular collar 70, where:

 mating formations formed at adjacent axial ends of each of the rotating sub-assembly of the two sealing stages to maintain the two sealing stages in axial alignment with one another.

Support for this amendment is found at paragraphs [0019] through [0033] of the present invention and FIG. 2 two support sleeves 40' that are fitted to the rotor 30 with mating formations comprising an annular collar 70 to maintain in correct axial alignment. Uth

does not disclose, teach or suggest this type of mating formations to maintain axial alignment with one another.

The rotating sub-assemblies sustain vibrations tending to bend them during use. Consequently, even if the rotating sub-assemblies are mutually axially aligned by the rotor when they are first installed on a stationary rotor, they can become misaligned if the rotor bends. By providing inter-engaging formations on the rotating subassemblies of the two stages, the present invention mitigates this problem.

As is well documented in the prior art, each of the sealing stages is formed of two sub-assemblies; one fixed to the rotor and one fixed to the casing. For each of the sealing stages in the present invention to be able to operate on its own when separated from the other sealing stage, not only it is essential for the rotating sub-assemblies to be separate from each other but also for the stationary sub-assemblies to be separate from each other.

The Examiner cites 35 U.S.C. § 102(b) and a proper rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claims as being anticipated by Uth.¹ The elements in independent claims 1, 7, and 13 of "each rotating sub-assembly of the two sealing stages is totally separable from one another and each stationary sub-assembly of the two sealing stages is totally separable from one another" and "mating formations formed at adjacent axial ends of each of the

¹ See MPEP §2131 (Emphasis Added) "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

rotating sub-assembly of the two sealing stages to maintain the two sealing stages in axial alignment with one another" is not taught or disclosed by Uth. The apparatus of Uth does not have mating formations for holding the rotating sub-assemblies in axial alignment. Accordingly, the present invention distinguishes over Uth for at least this reason. The Applicants respectfully submitted that the Examiner's rejection under 35 U.S.C. § 102(b) has been overcome. For the foregoing reasons, independent claims 1, 7, and 13 distinguish over Uth. Claims 5-6, 11-12, and 17-18 depend from independent claims 1, 7, and 13 respectively. Since dependent claims contain all the limitations of the independent claims, claims 5-6, 11-12, and 17-18 distinguish over Uth, and the Examiner's rejection should be withdrawn.

Rejection Under 35 U.S.C. §102(b) by Gardner

As noted above, the Examiner rejected claims 1-18 under 35 U.S.C. §102(b) as being anticipated by Gardner (U.S. 5,039,113). Independent claims 1, 7, and 13 have been amended to distinguish over Gardner.

Claims 2, 8, and 14 were cancelled without prejudice or disclaimer. Accordingly, the Examiner's rejection of claims 2, 8, and 14 are now rendered moot.

The Applicants have distinguished the present invention over the Uth reference in the section above entitled "Rejection Under 35 U.S.C. §102(b) by Uth." In order to avoid duplication of this section, all of the features of the present invention discussed above apply to distinguish over Gardner as well.

The Examiner cites 35 U.S.C. § 102(b) and a proper rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claims as being anticipated by Gardner.² The elements in independent claims 1, 7, and 13 of "each rotating sub-assembly of the two sealing stages is totally separable from one another and each stationary sub-assembly of the two sealing stages is totally separable from one another" and "mating formations formed at adjacent axial ends of each of the rotating sub-assembly of the two sealing stages to maintain the two sealing stages in axial alignment with one another" is not taught or disclosed by Gardner. The stationary sub-assemblies in Gardner have components in common and neither sealing stage can operate while it is separate from the other. The apparatus of Gardner does not have mating formations for holding the rotating sub-assemblies in axial alignment. Accordingly, the present invention distinguishes over Gardner for at least this reason. The Applicants respectfully submitted that the Examiner's rejection under 35 U.S.C. § 102(b) has been overcome. For the foregoing reasons, independent claims 1, 7, and 13 distinguish over Gardner.

Claims 3-6, 9-12, 15-18 depend from independent claims 1, 7, and 13 respectively. Since dependent claims contain all the limitations of the independent claims, claims 3-6, 9-12, 15-18 distinguish over Gardner, and the Examiner's rejection should be withdrawn.

² See MPEP §2131 (Emphasis Added) "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

CONCLUSION

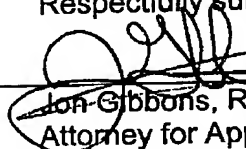
The remaining cited references have been reviewed and are not believed to affect the patentability of the claims as amended. In this Response, Applicants have amended certain claims. In light of the Office Action, Applicants believe these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

Applicants acknowledge the continuing duty of candor and good faith in the disclosure of information known to be material to the examination of this application. In accordance with 37 CFR §1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment is limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is knowingly surrendered and everything else is unforeseeable at the time of this amendment by the Applicants and their attorneys.

Applicants respectfully submit that all of the grounds for rejection stated in the Examiner's Office Action have been overcome, and that all claims in the application are allowable. No new matter has been added. It is believed that the application is now in condition for allowance, which allowance is respectfully requested.

PLEASE CALL the undersigned if that would expedite the prosecution of this application.

Date: April 22, 2005

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